CLAIMS

1. An automatic sun visor system for a vehicle, comprising:

a light detecting apparatus for detecting sunlight incident upon the face of an occupant of the vehicle;

a microcontroller for receiving a control signal from said light detecting apparatus; and

an adjustable sun visor, said sun visor receiving a darkening control signal from said microcontroller;

wherein said darkening control signal activates said adjustable sun visor in response to the degree of said sunlight detected.

2. The system of claim 1, wherein said adjustable sun visor further comprises an electrochromic sun visor, said electrochromic sun visor having a plurality of individual panels capable of dynamically controlling sunlight transmission therethrough.

3. The system of claim 2, wherein:

said plurality of individual panels are arranged in a generally vertical fashion with respect to one another; and

each of said individual panels are associated with a corresponding switching transistor operated through said darkening control signal;

wherein each successive switching transistor from one end to another has a progressively higher threshold voltage.

4. The system of claim 1, wherein said adjustable sun visor further comprises a mechanically operated fold down sun visor, said fold down sun visor coupled to a motor controlled by said darkening control signal.

5. The system of claim 4, wherein said fold down sun visor attached to an inside headliner of the vehicle and is configured to fold down to block light shining in through a front windshield of the vehicle.

6. The system of claim 5, wherein said fold down sun visor further pivots to block light shining in through a side window of the vehicle.

7. The system of claim 1, wherein said adjustable sun visor further comprises a mechanically operated roll down sun visor coupled to a motor controlled by said darkening control signal.

8. The system of claim 1, wherein said light detecting apparatus further comprises a camera, said camera being positioned toward the face of the occupant.

9. The system of claim 8, wherein said camera is an infrared camera.

10. The system of claim 8, wherein said camera detects a shadow line across the face of the occupant.

11. An automatic sun visor system for a vehicle, comprising:

at least one infrared camera aimed toward the headrest of the driver's seat of the vehicle;

a microcontroller connected to said at least one infrared camera;

a first sun visor connected to said microcontroller, whereby said first sun visor is capable of shading light shining in through the driver side of said front windshield; and

a second sun visor connected to said microcontroller, whereby said second sun visor is capable of shading light shining in through the passenger side of said front windshield.

12. The system of claim 11, wherein said at least one infrared camera is a digital camera.

13. The system of claim 11, wherein said first and second sun visors are mechanically operated fold down sun visors that are attached to the inside headliner of the vehicle and configured to fold down to block light shining in through the front windshield of the vehicle.

14. The system of claim 13, wherein said first mechanically operated fold down sun visor automatically pivots to block light shining in through a driver side window and said second mechanically operated fold down sun visor automatically pivots to block light shining in through a passenger side window.

15. The system of claim 11, further comprising:

a third sun visor to shade light shining in through said driver side window, whereby said third sun visor is connected to said microcontroller; and

a fourth sun visor displaced on the interior surface of a passenger side window to shade light shining in through said passenger side window, whereby said fourth sun visor is connected to said microcontroller.

16. The system of claim 15 wherein each of said first, second, third and fourth sun visors are electrochromic visors having a plurality of individual panels capable of dynamically controlling sunlight transmission therethrough.

17. The system of claim 16, wherein:

said plurality of individual panels are arranged in a generally vertical fashion with respect to one another; and

each of said individual panels are associated with a corresponding switching transistor operated through a darkening control signal from said microprocessor;

wherein each successive switching transistor from one end to another has a progressively higher threshold voltage.

18. The system of claim 15, wherein said first sun visor, said second sun visor, said third sun visor, and fourth sun visor each comprise an automatic roll down visor that rolls down to block said light.

19. A method for automatically operating a vehicle sun visor, comprising:

detecting the amount of light shining through the windows of the vehicle and onto the face of a vehicle occupant;

comparing said detected amount of light to a desired reference amount; and

applying a control signal to adjust the vehicle sun visor such that the actual amount of light incident onto the face of the vehicle occupant is in agreement with the desired reference amount of light.

20. The method of claim 19, wherein said detecting further comprises using a digital camera aimed at the eyes of the vehicle occupant so as to identify a shadow line thereupon.

21. The method of claim 19, wherein said detecting further comprises using an infrared camera aimed at the eyes of the vehicle occupant so as to detect the amount of heat in the form of infrared radiation emitted from the occupant's face.

22. The method of claim 19, wherein the sun visor is an electrochromatic sun visor, and said adjusting the sun visor further comprises applying said control signal to darken one or more individual panels within the sun visor.

23. The method of claim 19, wherein said adjusting the sun visor comprises rotating the sun visor to block said light by applying said control signal to a motor connected to the sun visor.

24. The method of claim 19, wherein said adjusting the sun visor comprises rolling the sun visor down to block said light by applying said control signal to a motor connected to the sun visor.